

CLAIMSREPLACED BY
ART 34 AMDT

1. An optical apparatus comprising a sample holding means, a detector and first and second light selection means, the sample holding means being arranged to receive incident light from a light source, the first light selection means being arranged to selectively allow light that passes from the sample holding means in a direction substantially parallel to the direction of the incident light to pass to the detector, and the second light selection means being arranged to selectively allow light that is emitted from the sample holding means in a direction substantially transverse to the direction of the incident light to pass to the detector.
2. An optical apparatus according to claim 1, wherein the first light selection means comprises a shutter located between the sample holding means and the detector, the shutter being moveable between a first position in which the light that is substantially parallel to the incident light passes through the shutter to the detector, and a second position in which the light that is substantially parallel to the incident light is prevented from passing to the detector.
3. An optical apparatus according to claim 2, wherein the shutter is provided with a reflective surface arranged such that when the shutter is in the second position the light that is substantially parallel to the incident light is reflected from the shutter.
4. An optical apparatus according to claim 3, wherein the shutter is arranged to reflect the light back into the sample holder.
5. An optical apparatus according to claim 4, wherein the shutter is arranged to reflect the light to a second detector or to a light trap.
6. An optical apparatus according to claims 4 and 5, wherein the reflective surface of the shutter is moveable and may be adjusted to either reflect the light back into the sample holder, or to reflect the light to the second detector or to the light trap.

7. An optical apparatus according to any preceding claim, wherein the second light selection means comprises one or more light guides.
8. An optical apparatus according to claim 7, wherein the one or more light guides are provided with light guide shutters moveable from a first configuration in which light is allowed to enter the one or more light guides, and a second configuration in which light is substantially prevented from entering the one or more light guides.
9. An optical apparatus according to claim 8, wherein the one or more light guides comprise one or more pentaprisms.
10. An optical apparatus according to claim 8, wherein the one or more light guides comprise one or more fibre optic cables.
11. An optical apparatus according to any proceeding claim, wherein operation means are provided to operate the first and second light selection means simultaneously such that when the first light selection means is adjusted to pass light to the detector the second light selection means is adjusted to prevent passage of light to the detector and vice verse.
12. An optical apparatus according to claim 11 when dependent from claim 2 or claim 8, wherein the shutter and the light guide shutters are provided with operation means which allow them to be operated simultaneously, such that as the shutter is moved from the first position to the second position, the light guide shutters move from their second position to their first position.
13. An optical apparatus according to claim 12, wherein the operation means comprises a mechanical connection.
14. An optical apparatus according to any preceding claim, wherein the apparatus is provided with one or more wavelength dependent optical filters which may be used

to selectively transmit to the detector light at the wavelength of the incident light or light at a fluorescence wavelength.

15. An optical apparatus according to claim 12 and claim 14, wherein the one or more wavelength dependent optical filters are mounted in a holder which may be connected to the operation means, such that movement of the shutter and the light guide shutters also moves the holder, thereby positioning an appropriate wavelength dependent optical filter over the detector.

16. An optical apparatus according to claim 15, wherein the holder is provided with an opening which does not contain a wavelength dependent optical filter.

17. An optical apparatus according to any preceding claim, wherein the detector is a photo-multiplier tube.

18. An optical apparatus according to any preceding claim, wherein the sample holding means comprises a housing dimensioned to receive a cuvette.

19. An optical apparatus according to claim 18, wherein areas of upper and lower surfaces of the housing are opaque such that light travelling in a direction which is not substantially parallel to the direction of the incident light is prevented from passing via the first light selection means to the detector.

20. An optical apparatus substantially as hereinbefore described with reference to the accompanying drawings.